

REMARKS

Claims 4, 6, and 15, are all the claims pending in the application. Claims 1-3, 5, and 7-14 have been canceled without prejudice or disclaimer. New claim 15 has been added to further define the invention. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1, 3, 4, and 6, under §102(e) as being anticipated by US Patent 6,113,514 to Okubo et al. (hereinafter Okubo). Applicants respectfully traverse this rejection because Okubo fails to disclose every element as set forth in the claims.

Claim 4 sets forth a CVT component including an inclusion of less than $100\mu\text{m}$ within a layer that is .5 mm from a contact surface of the component. With this arrangement, the CVT component achieves an acceptable life while, at the same time, providing a manufacturing advantage due to its tolerance for inclusions. See, for example, the present specification at: page 4, lines 20-23; page 6, lines 20-25; page 19, Table 2, Example 3, and lines 12-15; page 20, line 9 - page 21, line 12.

In contrast to that in claim 4, Okubo discloses “the nonmetallic inclusions 52 of high density are absent ... in the area of the traction surface 4 that extends within the range of 1.5b in the depth direction from the traction surface ...”¹ Accordingly, Okubo fails to teach or suggest that there are nonmetallic inclusions within the layer 1.5b, let alone that they are less than $100\mu\text{m}$.

For at least any of the above reasons, Okubo fails to anticipate claim 4. Likewise, this reference fails to anticipate dependent claim 6.

¹ Okubo at col. 17, lines 30-41.

Claim Rejections - 35 U.S.C. § 103

The Examiner rejected claims 1, 3, 4, and 6, under §103(a) as being unpatentable over US Patent 5,855,531 to Mitamura et al. (hereinafter Mitamura) in view of JP 06-287710 (hereinafter JP '710). Applicants respectfully traverse this rejection because the references fail to teach or suggest all the elements as set forth in the claims.

Again, claim 4 sets forth a CVT component including an inclusion of less than $100\mu\text{m}$ within a layer that is .5 mm from a contact surface of the component, and also sets forth that the component has a breaking life of greater than or equal to 150 hours.

The Examiner cites Mitamura as teaching a toroidal continuously variable transmission having an input disc, an output disc, and roller bearings. The Examiner notes that Mitamura fails to teach or suggest that the discs or the bearings have a layer formed at .4 mm or less from a surface thereof such that the layer does not contain a non-metallic inclusion having a maximum diameter of 0.115 mm or more. The Examiner then relies on JP '710 as teaching rolling bearings not having a non-metallic inclusion greater than .008 mm.²

The Examiner is correct in noting that JP '710 teaches that the nonmetallic inclusions are regulated to be $\leq 8 \mu\text{m}$. However, such a teaching does not provide motivation for including a nonmetallic inclusion of less than $100\mu\text{m}$ within a layer of .5 mm from a contact surface of a CVT component as in Mitamura. Instead, such a teaching would lead one of ordinary skill in the art to try to eliminate all nonmetallic inclusions; not introduce them.

Further, from the computer-generated English translation of JP '710, there does not appear to be any teaching of a specific value for time to breakage of the components as tested. Accordingly, although JP '710 teaches limiting the size of inclusions, there is no teaching or suggestion that even if there were an inclusion as set forth in claim 4 that the life of the CVT component would also then be at least 150 hours. Similarly, although Mitamura teaches various

² Office Action at page 3, item 4, 2nd paragraph.

lives of the CVT components, there is no teaching or suggestion that those lives would be the same if inclusions were present in the CVT component.

For at least the above reasons, Mitamura and JP '710 fail to render obvious claim 4. Likewise, these references fail to render obvious dependent claim 6.

New Claim

New claim 15 has been added to further define the invention, and should be allowable at least by virtue of its dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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